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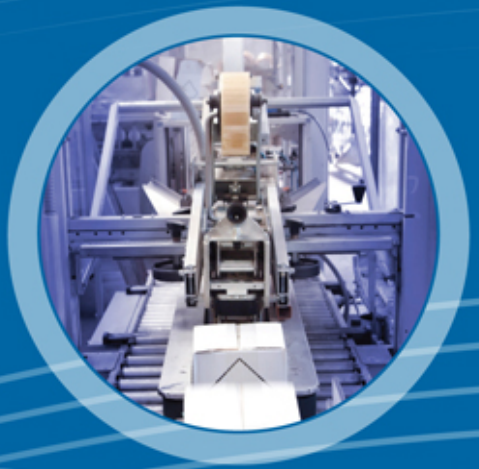
ICH Q7 Chapter 7:
Materials Management



PDA - PIC/S ICH Q7 Training

Disclaimer

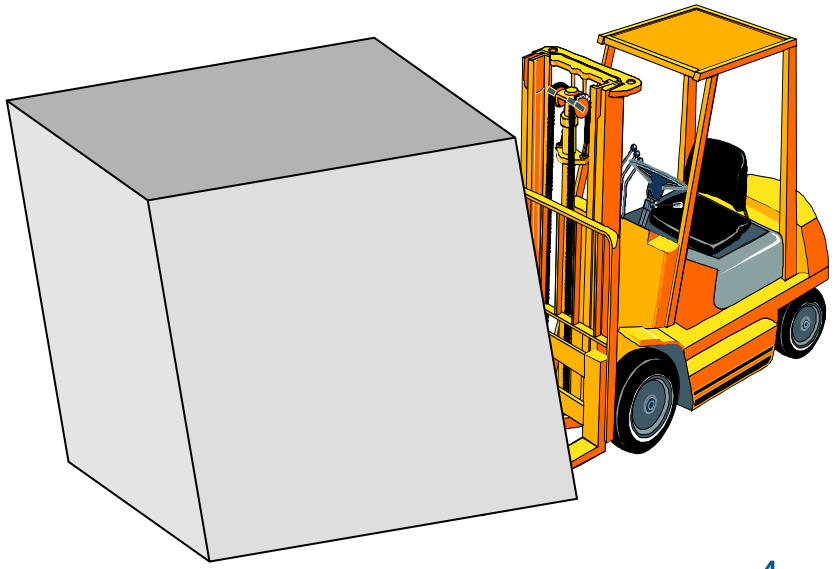
- **The slides set is based on the training sessions developed and performed by the members of the ICH Q7 Expert Working Group (EWG) on ICH Q7 2001/2002**

- **The slides have been updated 2012 and represents the views of the PDA / PIC/S committee for the purposes of a general training for regulators and industry.**

- ***We focused on elements in ICH Q7 where further explanation and/or clarification are useful.***

Content

- **General Controls** *(7.1)*
- **Receipt & Quarantine** *(7.2)*
- **Sampling & Testing of Materials** *(7.3)*
- **Storage** *(7.4)*
- **Re-evaluation** *(7.5)*

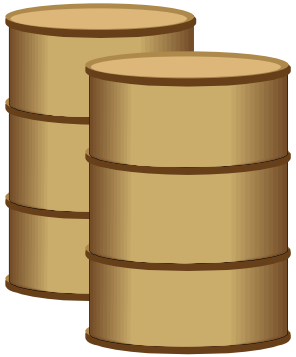


Definition

- **Material**
  - Denotes raw materials, process aids, intermediates, APIs, packaging and labeling materials
- **Raw material**
  - Denotes starting materials, reagents, solvents used in production of APIs or intermediates

- *ICH Q11 defines what to file as 'API staring material'. This is the starting point for GMP according ICH Q7*

Definition



- **Reagent**
  - Denotes materials that participate in reaction
- **Solvent**
  - Denotes inorganic or organic liquid used as vehicle for preparation of solutions or suspensions in production of APIs or intermediates

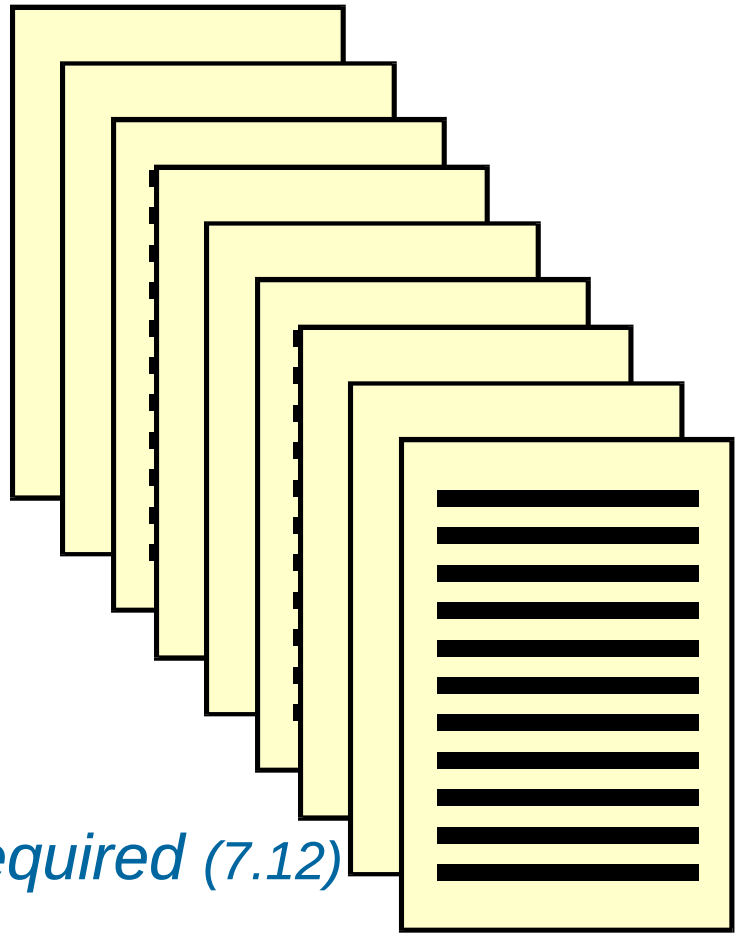
Some materials can have different classes depending on the use e.g. a solvent can also be an API-starting material (e.g. Ethylene dichloride, Acetonitrile). The 'worst case' have to be applied.

Definition

- **Process aid**
  - Denotes materials (excluding solvents) used as aid in production of APIs or intermediates that do not participate in reaction (e.g. filter aid, activated carbon)
- **Packaging material**
  - Denotes any material intended to protect an API or intermediate during storage and transport

7.1 Materials Management General

- **Written Procedures** *(7.10)*
  - Receipt
  - Identification
  - Quarantine
  - Storage
  - Handling
  - Sampling
  - Testing
  - Approval / rejection



- *A list of approved suppliers is required (7.12)*

7.1 Materials Management General

- **Suppliers approved by the quality unit** *(7.12)*
  - *Approval by the purchasing department is not regarded adequate*
- **System for evaluating suppliers of *critical* materials** *(7.11)*
  - A material is “a general term used to denote raw materials (starting materials, reagents, solvents), process aids, intermediates, APIs and packaging and labeling materials”
  - Critical describes “…a relevant parameter or item that must be controlled within predetermined criteria to ensure that the API meets its specification”.
  - *Although not mandatory this evaluation should usually include and be based on audits by or on behalf of the company*
  - *This right should be in the contract or agreement to refer to the written and approved document that defines in detail the GMP responsibilities, including the quality measures, of each party*

7.1 Materials Management General

- **Specifications for materials** *(7.12)*
  - *There should be an agreement that the supplier and company uses all-times the same specification and implement a periodic review*
  - *Regarding the impurity profile: If any material used is causing a specific impurity the route of synthesis might have to be specified for this material*
- **Name & address of manufacturer known (for materials supplied through intermediaries)** *(7.13)*
- **Change control for changing source of critical raw materials** (see also Section 13) *(7.14)*
  - *Critical is defined for all material affecting the quality of the API*

7.2 Receipt & Quarantine

- **Each container (or group of containers) visually examined** *(7.20)*
  - Labeling, damage, seals, tampering
  - *'Container' which are used for transportation and/or storage*
  - *Any inconsistencies should be investigated*
- **Held under quarantine until sampled, examined / tested & released** *(7.20)*
  - Including mixing into existing stock (e.g. solvents *(7.21)*)
- **Unless appropriate system to allow use under quarantine** *(2.17)*
  - *Quarantine: Status of materials isolated physically or by other means pending a decision on their subsequent approval or rejection*

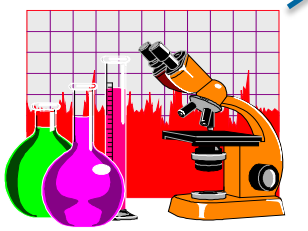
7.2 Receipt & Quarantine

- **If material delivered in non-dedicated tankers** *(7.22)***...**

7.2 Receipt & Quarantine

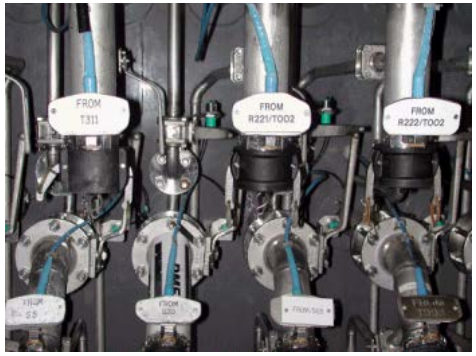
- **.... assurance of no cross-contamination from tanker** *(7.22)*
  - Certificate of cleaning
  - Testing for trace impurities
  - Audit of supplier / transporter

One or more



- *Using certificates of cleaning should be preferably supported by an audit of the transport company or an alternative type of assessment giving adequate confidence of the validity of the certificate*

7.2 Receipt & Quarantine

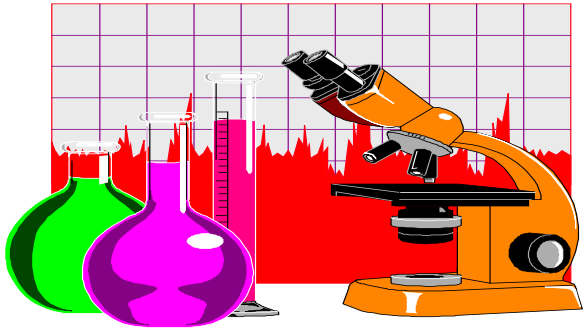


- **Large storage containers, manifolds, filling & discharge lines appropriately identified** *(7.23)*
- **Each container (or grouping) assigned code, batch or receipt number** *(7.24)*
- **System to identify status of each batch** *(7.24)*

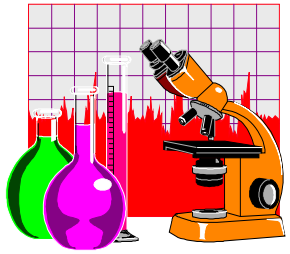
  - *A system should be in place to ensure the status of the different containers of each batch is clear. This may depend on how the batch is used in productions*

7.3 Sampling & Testing

- **One ID test, at least** *(7.30)*
  - With supplier Certificate of Analysis (CoA) for other tests
  - With system to evaluate suppliers
  - *There are exceptions (7.32)*



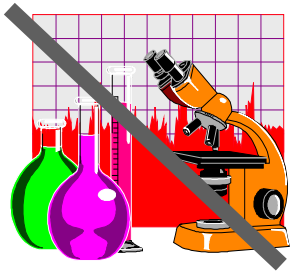
7.3 Sampling & Testing



- **Supplier Approval** *(7.31)*
  - Adequate evidence that material consistently meets specifications
  - Full analyses on at least 3 batches before reduced testing
  - Full analysis at appropriate intervals versus CoA
  - Reliability of CoA checked at regular intervals
  - *This can be assessed based using Quality Risk Management principles and may be consider annual full analysis*
  - *According to Risk Management principles (ICH Q9 specified and/or acceptable levels will depend on many parameters and should be decided on a case-by-case basis*

7.3 Sampling & Testing

- **No testing necessary for processing aids, hazardous or highly toxic, special materials, transfers within company control if** *(7.32)*
  - CoA shows conformance to specs
  - Visual examination of containers/labels
  - Recording of batch numbers
  - Lack of on-site testing justified & documented



- *Proper documentation and justification is needed for other exceptions*

7.3 Sampling & Testing

- **About Samples** *(7.33)*
  - Representative
    - *This may require mixing or warming before sampling*
  - Methods specify
    - Number of containers
    - Part of container
    - Amount of material
  - Sampling plan based on
    - Material criticality
    - Material variability
    - Quality history
    - Quantity analyzed

- Normally there should be a statistically bases for the sampling plan

7.3 Sampling & Testing

- **Sampled at defined locations & by procedures to prevent contamination** *(7.34)*
- **Sampled containers resealed & marked** *(7.35)*

7.4 Storage of Materials

- **Stored / handled to prevent degradation, contamination & cross-contamination** *(7.40)*
  - *Small qualities (e.g. tailings) are often stored separately. The controlling should be equivalent to the main batch.*

- **Stored off floor, suitably spaced for cleaning / inspection** *(7.41)*

7.4 Storage of Materials

- **Materials should be stored under conditions and for a period that have no adverse affect on their quality.** *(7.42)*
  - *Storage facilities should be temperature and humidity mapped in worst case seasonal conditions*
- **Materials should normally be controlled so that the oldest stock is used first.** *(7.42)*
  - *Normally first expiry first out (FEFO)*

7.4 Storage of Materials

- **Outside storage in suitable containers o.k. if labels remain legible and containers cleaned before opening / use** *(7.43)*
  - *Assessment of the suitability of the labels to remain legible over time (e.g. influence of sunlight, rain)*
  - *Containers with out side storage should be sealed*
- **Rejects identified and controlled** *(7.44)*

7.5 Re-evaluation

- **Re-evaluation as appropriate to determine suitability for use** *(7.50)*
  - Time
  - Conditions

- *Any material that is desired to be used beyond the re-test date should be typically fully tested before use*
- *Clarify with the manufacturer really means of the date given for a batch: 're-test date' or 'expiry date'*

Key Messages

- **Be clear on the categorisation of the material**
  - Material, raw material, reagent, solvent, process aid, packaging material, API starting material
- **General needs**
  - Specification
  - Evaluating, approval and change control of suppliers of *critical* materials
  - Receipt, quarantine and re-use procedures
  - Sampling and Testing (ID test at least)
- **Storage of Materials**
  - Prevent degradation, contamination & cross-contamination

ICH Q7 QaA *Clarification of Uncertainties*

1. Does the phrase ‘grouping of containers’ have the same meaning in [ICH Q7, 7.20 and 7.24]?
2. What is expected in terms of evaluation of suppliers of materials?
3. What is meant by ‘full analysis’ [ICH Q7, 7.31] on batches of raw materials to qualify a supplier?
4. Are on-site audits required in the evaluation of suppliers?
5. Which tests are considered to be identity tests?
6. Is it possible to extend the expiry date or retest date of a raw material and what is the acceptable practice to determine how long it may be extended for?

ICH Q7 Q&A, 2015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